

WHAT IS CLAIMED IS:

1. A method for determining a location of a mobile radio, comprising:
determining location information for plural cells in a set of cells associated with the
mobile radio, and

using the cell location information to determine a location of the mobile radio.

2. The method in claim 1, wherein the set of cells includes an active set of cells
for the mobile radio.

3. The method in claim 1, wherein the set of cells includes cells that are cells
currently supporting a handover communication with the mobile radio.

4. The method in claim 3, wherein the set of cells includes cells that are
candidates for supporting a communication with the mobile radio.

5. The method in claim 1, wherein the cell location information includes
information defining a one or more boundaries of each of the cells.

6. The method in claim 5, wherein the cell location information includes
coordinates of boundary positions for each cell.

7. The method in claim 6, further comprising:
selecting certain ones of the coordinates to define the mobile location.

8. The method in claim 6, wherein each boundary position includes a
horizontal coordinate and a vertical coordinate.

9. The method in claim 8, further comprising:

comparing the horizontal coordinates;

selecting one or more of the horizontal coordinates;

comparing the vertical coordinates;

selecting one or more of the vertical coordinates; and

using the selecting horizontal and vertical coordinates to define the mobile radio
location.

10. The method in claim 9, wherein a pair of horizontal coordinates and a pair of vertical coordinates are selected to define the mobile radio location.

11. The method in claim 9, wherein a first selected horizontal coordinate corresponds to a highest one of the lowest horizontal coordinates of each of the cell boundary coordinates, a second selected horizontal coordinate corresponds to a lowest one of the highest horizontal coordinates of each of the cell boundary coordinates, a first selected vertical coordinate corresponds to a lowest one of the highest vertical coordinates of each of the cell boundary coordinates, and a second selected vertical coordinate corresponds to a highest one of the lowest vertical coordinates of each of the cell boundary coordinates.

12. A method for determining a location of a mobile radio comprising:
obtaining previously determined coordinates of plural cells in a set of cells associated with the mobile radio, where each coordinate may be defined with a horizontal coordinate and a vertical coordinate;

analyzing a first group of lowest horizontal coordinates for the set of cells and selecting a highest coordinate from the first group;

analyzing a second group of highest horizontal coordinates for the set of cells and selecting a lowest coordinate from the second group;

analyzing a third group of lowest vertical coordinates for the set of cells and

selecting a highest coordinate from the third group;

analyzing a fourth group of highest vertical coordinates for the set of cells and selecting a lowest coordinate from the fourth group;

determining a location of the mobile radio using the selected coordinates from some or all of the first, second, third, and fourth groups.

13. The method in claim 12, wherein the determining step includes determining a location of the mobile radio using the selected coordinates from each of the first, second, third, and fourth groups.

14. The method in claim 12, wherein horizontal coordinates represent latitude values and vertical coordinates represent longitude values.

15. The method in claim 12, wherein the set of cells includes an active set of cells for the mobile radio.

16. The method in claim 15, wherein the set of cells includes cells that are candidates for the active set.

17. The method in claim 12, wherein the set of cells includes cells that are currently supporting a handover communication with the mobile radio.

18. A node in or coupled to a radio access network for determining a location of a mobile radio comprising electronic circuitry configured to perform the following tasks:
determine a set of cells associated with the mobile radio;
determine cell location information for cells in the set of cells; and
use the cell location information to determine a location of the mobile radio.

19. The node in claim 18, wherein the set of cells includes cells that are in an active set for the mobile radio.

20. The node in claim 18, wherein the set of cells includes cells that are candidates for supporting a communication with the mobile radio.

21. The node in claim 18, wherein the set of cells includes cells that are currently supporting a handover communication with the mobile radio.

22. The node in claim 18, wherein the cell location information includes information defining one or more boundaries of each of the cells in the set.

23. The node in claim 22, wherein the location information includes coordinates of boundary positions for each cell.

24. The node in claim 23, wherein the electronic circuitry is further configured to select certain ones of the coordinates to define the mobile location.

25. The node in claim 24, wherein each boundary position includes a horizontal coordinate and a vertical coordinate.

26. The node in claim 25, wherein the electronic circuitry is further configured to:

5 compare the horizontal coordinates;
select one or more of the horizontal coordinates;
compare the vertical coordinates;
select one or more of the vertical coordinates; and
use the selected horizontal and vertical coordinates to define the mobile radio

10 location.

27. The node in claim 26, wherein the electronic circuitry is further configured to select one pair of horizontal coordinates and one pair of vertical coordinates to define the mobile radio location.

28. The node in claim 26, wherein a first selected horizontal coordinate corresponds to a highest one of the lowest horizontal coordinates of the cell boundary coordinates, a second selected horizontal coordinate corresponds to a lowest one of the highest horizontal coordinates of the cell boundary coordinates, a first selected vertical coordinate corresponds to a lowest one of the highest vertical coordinates of the cell boundary coordinates, and a second selected vertical coordinate corresponds to a highest one of the lowest vertical coordinates of the cell boundary coordinates.

29. The node in claim 18, wherein the electronic circuitry is further configured to:

obtain coordinates of cells in the set;
analyze a first group of lowest horizontal coordinates for the set of cells and select a
25 highest coordinate from the first group;
analyze a second group of highest horizontal coordinates for the set of cells and
select a lowest coordinate from the second group;

analyze a third group of lowest vertical coordinates for the set of cells and select a highest coordinate from the third group;

analyze a fourth group of highest vertical coordinates for the set of cells and select a lowest coordinate from the fourth group;

determine a location of the mobile radio using the selected coordinates from some of the first, second, third, and fourth groups.

30. The node in claim 29, wherein the electronic circuitry is further configured to determine a location of the mobile radio using the selected coordinates from each of the first, second, third, and fourth groups.

31. The node in claim 29, wherein horizontal coordinates represent latitude values and vertical coordinates represent longitude values.

32. The node in claim 29, wherein the node is any one of a base station, a base station controller, a radio network controller, or a core network node.